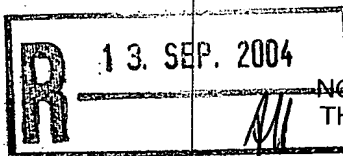


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From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

Dünnwald, Dieter  
CLARIANT INTERNATIONAL LTD.  
Rothausstrasse 61  
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SUISSE



PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing  
(day/month/year)

09.09.2004

Applicant's or agent's file reference  
2002CH004

**IMPORTANT NOTIFICATION**

International application No.  
PCT/B 03/02140

International filing date (day/month/year)  
05.06.2003

Priority date (day/month/year)  
05.06.2002

Applicant  
CLARIANT INTERNATIONAL LTD

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
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PCT 10/517116

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

REC'D 10 SEP 2004



WIPO PCT

Applicant's or agent's file reference 2002CH004	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IB 03/02140	International filing date (day/month/year) 05.06.2003	Priority date (day/month/year) 05.06.2002
International Patent Classification (IPC) or both national classification and IPC D06P3/54		
Applicant CLARIANT INTERNATIONAL LTD		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  01.12.2003	Date of completion of this report  09.09.2004
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Koegler-Hoffmann, S  Telephone No. +49 89 2399-8611 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IB 03/02140**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-16 as originally filed

**Claims, Numbers**

1-12 received on 18.06.2004 with letter of 18.06.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/B 03/02140**

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	1-12
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB 03/02140

**Re Item V**

***Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement***

1. Reference is made to the following documents:

- D1: "Colour Index international" 1987, THE SOCIETY OF DYERS AND COLOURISTS  
 , THIRD EDITION 8 , XP002260810
- D2: WO 02/057537 A
- D3: GB 883 377 A
- D4: DE 10 86 832 B

2. The current application relates to the use of a transition metal coordination compound (claim 1), to a mixture comprising a transition metal coordination compound and at least one specific disperse dye (claim 7), to a textile material dyed with said mixture (claim 11) and to the use of said textile (claim 12).

The subject matter of independent claims 1, 7, 11 and 12 is new in view of the documents cited in the Search Report or mentioned in the current application, since none of these documents discloses all the features of said claims.

The current application addresses the problem of improving the fastness to light of dyed polyester material without the need of using modified polyester fibre material (see current application: page 1, lines 6 to 7).

According to claim 1 said problem is solved by the use of at least one transition metal coordination compound.

None of the cited documents suggests or gives a hint to said solution:

D1 describes a C.I. Solvent Brown 52 which is a transition metal compound and it is disclosed that this compound may be used for in mass colouring polyester fibre material. There is no teaching in D1 to use said compound for improving the light stability of dyeing on polyester.

D3 relates to the preparation and the use of transition metal compounds which fall within in the scope of the compounds used in the current application. Said compounds

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/IB 03/02140

are used for dyeing polyester material. D3 is, however, silent about the use of said compounds to improve the light stability of dyeing on polyester. Moreover, D3 does not disclose a mixture as claimed in the current application.

D4 discloses the preparation and the use of transition metal coordination compounds for dyeing polyester material. Even though D4 describes that the light stability of these dyed materials is excellent, there is no hint in D4 to use said compounds for improving the light stability of dyed polyester material as described in the current application.

The subject-matter of independent claims 1, 7, 11 and 12 appear to meet Articles 33(2) and 33(3) PCT.

Claims 2 to 6 and 8 to 10 are dependent on claims 1 and 7 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D3 and D4 is not mentioned in the description, nor are these documents identified therein.

The description is not in conformity with the claims as required by Rule 5.1(a)(iii) PCT.

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International Application No. PCT/IB 03/02140

amended claims

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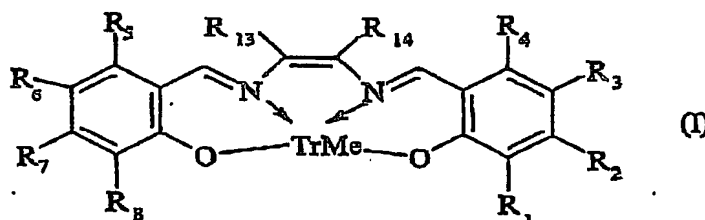
## CLAIMS

1. Use of at least one transition metal coordination compound for improving the light fastness of dyed polyester material.

2. Use according to claim 1 characterized in that the transition metal coordination compound comprises Ni, Co, Cr or Cu (Nickel, Cobalt, Chromium or Copper).

3. Use according to claim 2 characterized in that the transition metal coordination compound comprises Nickel (Ni).

4. Use according to claim 1 characterized in that the transition metal coordination compound is a compound according to formula (I)



wherein

TrMe signifies a transition metal and  $R_1$  to  $R_8$  independently from each other signify H, halogen,  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{COOH}$ ,  $-\text{CH}_3$ ,  $-\text{NH}_2$  or  $\text{NHCH}_3$  and  $R_{13}$  or  $R_{14}$  independently from each other signify H, halogen or  $-\text{CN}$ , or  $R_{13}$  and  $R_{14}$  form together a ring which is by preference a six membered ring and which may be unsubstituted or may be substituted by halogen,  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{COOH}$ ,  $-\text{CH}_3$ ,  $-\text{NH}_2$  or  $\text{NHCH}_3$ .

5. Use according to claim 4 characterized in that the transition metal in the transition metal coordination compound of formula (I) is Nickel

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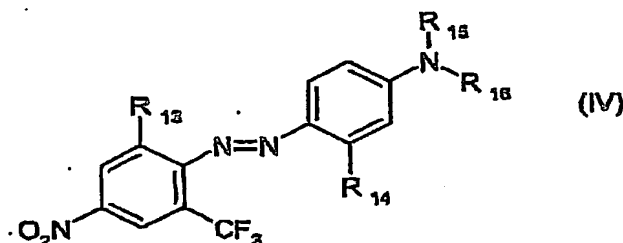
2002CH004

International Application No. PCT/IB 03/02140

amended claims

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6. Use according to any of the claims 1 to 5 characterized in that the transition metal coordination compound is used in a mixture comprising at least one of the following dyes: C.I. Disperse Yellow 42, C.I. Disperse Yellow 72, C.I. Disperse Yellow 86, C.I. Disperse Yellow 54, C.I. Disperse Yellow 64, C.I. Solvent Yellow 163, C.I. Disperse Red 60, C.I. Disperse Red 86, C.I. Disperse Red 91, C.I. Disperse Red 167, C.I. Disperse Red 167.1, C.I. Disperse Red 202, C.I. Disperse Red 302, C.I. Disperse Red 273, C.I. Disperse Red 279, C.I. Disperse Red 271, C.I. Solvent Red 135, C.I. Disperse Violet 27, C.I. Disperse Violet 57, C.I. Disperse Blue 56, C.I. Disperse Blue 77, C.I. Disperse Blue 54, C.I. Disperse Blue 27, C.I. Disperse Blue 55, C.I. Disperse Blue 60, C.I. Disperse Blue 87, C.I. Disperse Orange 30, C.I. Disperse Orange 41, C.I. Disperse Orange 29, structures according to formula (IV)



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wherein

- $R_{13}$  signifies -Br, -Cl, or -CN;  
 $R_{14}$  signifies -H, -CH<sub>3</sub>, -NHCOCH<sub>3</sub>;  
 $R_{15}$  signifies a unsubstituted ethyl group or ethyl group which is substituted by -CN, -acyloxy;  
 $R_{16}$  signifies a unsubstituted ethyl group or ethyl group which is substituted by -CN, -acyloxy;

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or mixtures thereof.

- 25 7. Mixture comprising at least one transition metal coordination compound and at least one disperse dye characterized in that the at least one disperse dye is at least one of the following dyes: C.I. Disperse Yellow 42, C.I. Disperse Yellow 72, C.I. Disperse Yellow 86, C.I. Disperse Yellow 54, C.I. Disperse Yellow 64,

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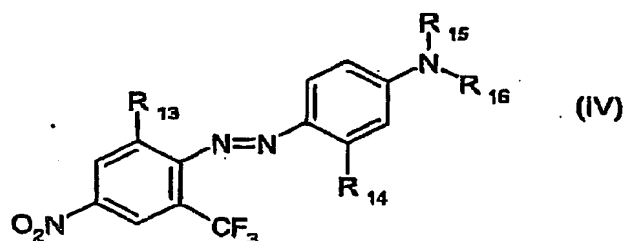
2002CH004

International Application No. PCT/IB 03/02140

amended claims

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C.I. Solvent Yellow 163, C.I. Disperse Red 60, C.I. Disperse Red 86, C.I. Disperse Red 91, C.I. Disperse Red 167, C.I. Disperse Red 167.1, C.I. Disperse Red 202, C.I. Disperse Red 302, C.I. Disperse Red 273, C.I. Disperse Red 279, C.I. Disperse Red 271, C.I. Solvent Red 135, C.I. Disperse Violet 27, C.I. Disperse Violet 57, C.I. Disperse Blue 56, C.I. Disperse Blue 77, C.I. Disperse Blue 54, C.I. Disperse Blue 27, C.I. Disperse Blue 55, C.I. Disperse Blue 60, C.I. Disperse Blue 87, C.I. Disperse Orange 30, C.I. Disperse Orange 41, C.I. Disperse Orange 29, structures according to formula (IV)



wherein

- $R_{13}$  signifies -Br, -Cl, or -CN;  
 $R_{14}$  signifies -H, -CH<sub>3</sub>, -NHCOCH<sub>3</sub>;  
 $R_{15}$  signifies a unsubstituted ethyl group or ethyl group which is substituted by -CN, -acyloxy;  
 $R_{16}$  signifies a unsubstituted ethyl group or ethyl group which is substituted by -CN, -acyloxy;

or mixtures thereof

8. Mixture according to claim 7 characterized in that the at least one transition metal coordination compound is a transition metal coordination compound according to formula (I)

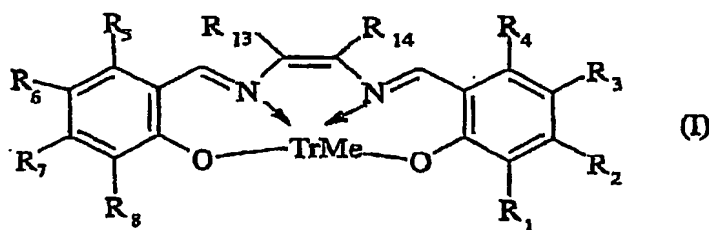
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2002CH004

International Application No. PCT/IB 03/02140

amended claims

4



wherein

TrMe signifies a transition metal and  $R_1$  to  $R_8$  independently from each other signify H, halogen,  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{COOH}$ ,  $-\text{CH}_3$ ,  $-\text{NH}_2$  or  $\text{NHCH}_3$  and  $R_{13}$  or  $R_{14}$  independently from each other signify H, halogen or  $-\text{CN}$ , or  $R_{13}$  and  $R_{14}$  form together a ring which is by preference a six membered ring and which may be unsubstituted or may be substituted by halogen,  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{OH}$ ,  $-\text{COOH}$ ,  $-\text{CH}_3$ ,  $-\text{NH}_2$  or  $\text{NHCH}_3$ .

9. Mixture according to claim 8 characterized in that the transition metal TrMe comprises Ni, Co, Cr or Cu (Nickel, Cobalt, Chromium or Copper).

10. Mixture according to claim 9 characterized in that the transition metal TrMe is Nickel.

11. Textile material dyed with a mixture according to Claim 7.

12. Use of a textile as claimed in Claim 11 as automobile upholstery or as an article of clothing or as a sun blind or textiles for out door furnitures.

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